

BEST AVAILABLE COPY



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKETT NO.
08/743,002	11/1/96	DAMSOHN ET AL.	027/43042
		EXAMINER	
		LEO	
		ART UNIT	PAPER NUMBER
		3743	5

DATE MAILED:

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

(1) Paul Schnose (Attorney) (3)
(2) Leonard A. Leo (Examiner) (4)

Date of interview SEPT. 15, 1998

Type: Telephonic Personal (copy is given to applicant applicant's representative).

Exhibit shown or demonstration conducted: Yes No. If yes, brief description:

Agreement was reached with respect to some or all of the claims in question. was not reached.

Claims discussed: All

Identification of prior art discussed: Hersh

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: discussed manufacture of Hersh made by soldering to form "lattice", suggested claim language divided to "preformed lattice" having "weld joints" w/ tubes which would be patentable over prior art of record.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

1. It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph below has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., it is 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

2. Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the requirements of the last Office action. Applicant is not relieved from providing a separate record of the substance of the interview unless box 1 above is also checked.

Leonard A. Leo
Examiner's Signature

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: HERBERT DAMSOHN ET AL.

Serial No.: 08/743,002 Group Art Unit: 3743

Filed: NOVEMBER 1, 1996 Examiner: L. LEO

Title: HEAT EXCHANGER FOR EXHAUST GAS COOLING

PROPOSED AMENDMENT FOR PURPOSES OF INTERVIEW DISCUSSION ONLY

1. (Amended) A heat exchanger for cooling exhaust gas of an internal-combustion engine, comprising:

a plurality of rectangular tubes for guiding exhaust gas;

a plurality of lugs arranged in pairs in said rectangular tubes diagonally to a flow direction of the exhaust gas;

latticed tube bottoms [in] to which ends of said rectangular tubes are [arranged] welded such that said rectangular tubes form a bundle;

a sheet metal jacket arranged around said bundle and attached to said tube bottoms, said sheet metal jacket being provided with a coolant inlet and a coolant outlet to allow a liquid coolant to flow around said rectangular tubes in said sheet metal jacket; and

[flange plates] connections attached to ends of said sheet metal jacket and configured for attachment to an exhaust pipe, each said flange plate defining a central opening which communicates said rectangular tubes with the exhaust pipe.

20. (Amended) A heat exchanger for cooling exhaust gas of an internal-combustion engine, comprising:

a plurality of tubes for guiding exhaust gas;

first and second latticed tube bottoms, each tube bottom defining a plurality of openings corresponding to an outer periphery of respective of said tubes, first and second axial ends of each of said tubes being arranged in and welded to respective of said openings in said first and second tube bottoms such that said tube bottoms support said tubes substantially

parallel to one another and spaced-apart from one another in a bundle;

a sheet metal jacket concentrically surrounding said bundle and attached to said tube bottoms, said sheet metal jacket and said tube bottoms defining a chamber, said sheet metal jacket being provided with a coolant inlet and a coolant outlet to allow a liquid coolant to enter said chamber, flow around an exterior surface of said tubes in said chamber, and exit said chamber; and

[flange plates] connections attached to ends of said sheet metal jacket and configured for attachment to an exhaust pipe, each said flange plate defining an opening which communicates an interior of said tubes with an interior of said exhaust pipe.

22. (Amended) A method of manufacturing a heat exchanger for cooling exhaust gas of an internal-combustion engine, said method comprising the steps of:

providing a plurality of rectangular tubes for guiding exhaust gas;

attaching a plurality of lugs to said rectangular tubes diagonally to a flow direction of the exhaust gas, said lugs being arranged in pairs;

providing first and second latticed tube bottoms, each tube bottom defining a plurality of openings corresponding to an outer periphery of respective ones of said tubes,

[attaching] welding ends of said rectangular tubes to said latticed tube bottoms such that said rectangular tubes form a bundle;

attaching a sheet metal jacket to said tube bottoms and around said bundle;

providing said sheet metal jacket with a coolant inlet and a coolant outlet to allow a liquid coolant to flow around said rectangular tubes in said sheet metal jacket; and

attaching [flange plates] connections to ends of said sheet metal jacket, said flange plates being configured for attachment to an exhaust pipe, each said flange plate defining a central opening which communicates said rectangular tubes with the exhaust pipe.